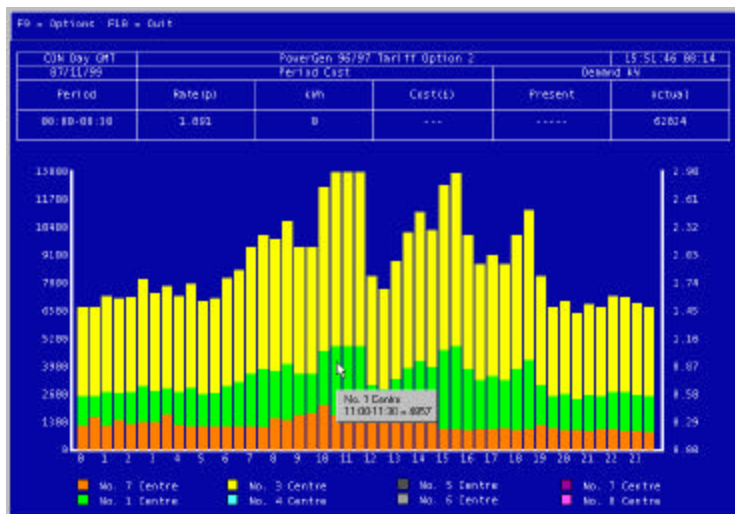


ATLAS 2000

Albar Windows Energy Monitoring System



The ATLAS 2000 system provides the extensive power of the well established ATLAS systems for a Windows® 95, 98 or NT environment.

The system can be used to monitor and record electricity and other resource usage for individual sites, for cost centres within these sites and even for widespread sites within a national or international group. The accumulated information is permanently stored and can be used for tariff comparison, production of consumption and cost profiles, efficiency studies and give useful information on many aspects of plant operation. Furthermore ATLAS can be used in an on-line configuration to provide full management capability, including warnings of potential excessive use for those electricity users on demand and time usage critical tariffs. An important concept in the design of ATLAS is the ability to readily re-configure the system to meet the changing needs of its users without expensive equipment replacement.

THE SYSTEM

The system is designed to continuously monitor the pulsed outputs from energy meters which will typically be electricity meters but could include gas, water, effluent, steam or other meters if desired. The Basic modules of the system are:

LOGGER OUTSTATIONS

The full range of Albar ATLAS IV Loggers and μ -Loggers can be easily combined in ATLAS 2000 systems. Logger capacities from 4 to 104 inputs are available. ATLAS IV Logger Outstations are housed in wall mounted steel IP55 enclosures normally located adjacent to the meters being monitored or at some other convenient point to minimise plant cabling costs. A typical Logger Outstation will have 40 inputs in addition to the half-hour synchronisation pulse from the Electricity Supplier metering. Multiple Logger Outstations can be readily accommodated and there is virtually no limit to the number of meters that can be monitored. These Logger Outstations need not be at the same geographical location, modem communication is a regular feature of the system.

The Logger Outstations are normally mains powered. In the event of local power loss μ -Loggers will operate for 24hours and ATLAS IV loggers will continue to operate fully for up to 5 days subject to the condition of their own trickle charged batteries. The system software provides a warning of battery operation to initiate user investigation.

For most applications pulses will be accumulated into half hour [15 minutes is an option] consumption periods, however real-time, minute by minute, monitoring of all inputs can be carried for more detailed knowledge of plant operation. The Logger has memory capacity to provide for a minimum of one month of data before it is necessary for the System PC to copy this recorded data. A typical system will, however, operate with the System Computer collecting data several times each day from Loggers and probably each few minutes to provide regular updating of System displays.

SYSTEM COMPUTER with ANALYSIS SOFTWARE

This unit is based on an IBM compatible personal computer with the following minimum specification:

- A Pentium [300MHz min] Personal Computer with min 64 Mbytes RAM.
- A 6 Gbyte hard disc plus one 3.5" (1.44 Mbyte) floppy disc drives.
- A 15" SVGA colour monitor and graphics adaptor [min 800x600 resolution]
- 2 Serial Ports and 1 Parallel Port

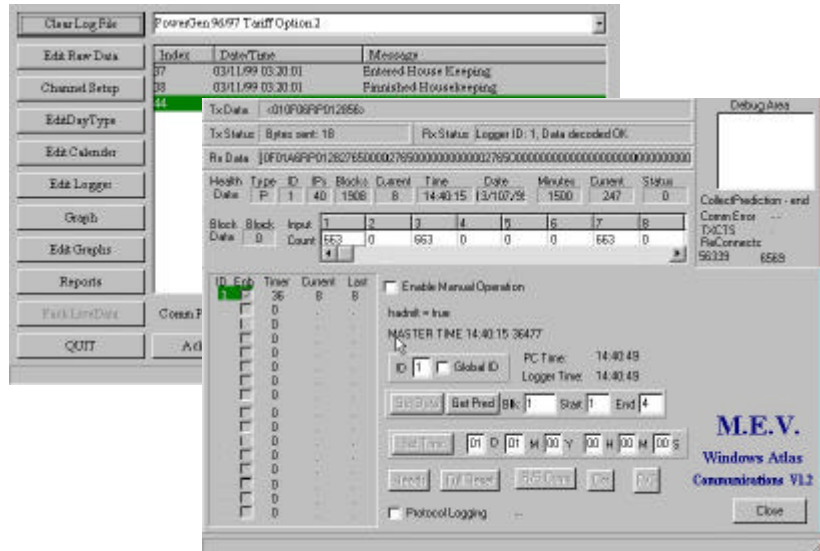
In a basic system the System Computer could be located adjacent to the Logger Outstation but to derive the maximum benefit from the system it is recommended that the former is located in a manned control room or similar location. The System Computer is not totally dedicated to ATLAS use and is available for other tasks.

CONFIGURATIONS

As described above a standard ATLAS 2000 System will normally comprise a System Computer with Analysis Software plus one or more Logger Outstations. It is an important part of the overall concept of ATLAS that remote monitoring can be readily accomplished.

Some possible configurations are:

- a) System Computer remote from Logger Outstations on same site.
 - 1) Up to 50 metres, normal RS232.
 - 2) Up to 4000 metres, with multiple Logger Outstation's, RS485 twisted pair network - **recommended**.
 - 3) Using your internal telephone system with dial-up modems.
 - 4) Using radio modems when internal telephone system not available.
- b) System Computer remote from Logger Outstations on different sites across the country.
 - 1) Private telephone line via modems.
 - 2) Normal subscriber lines via dial-up modems.



ATLAS 2000 SOFTWARE

For normal operation the System Computer will communicate with the Logger at regular, user set, intervals. This can be typically once or twice a day or continuously if Demand Management capability is desired. Collected data is stored on the system hard disc and systematically backed-up to minimise the possibility of data loss due to computer malfunction. The ATLAS 2000 software is designed to be easily used by persons familiar with Windows. It is extremely versatile allowing easy system configuration and includes a number of readily pre-formatted reports.

Some of the features ATLAS 2000 software are:

- a) The data can be organised into logical, named, Analysis Centres by adding or subtracting meter channels or a proportion of a channel (e.g. Meter 7 + Meter 9 + 60% of Meter 8 - Meter 2).
- b) Any number of Tariffs of any complexity can be entered by the user, multiple time bands, fixed charges etc.
- c) Daylight Saving Time (or equivalent) is automatically accounted for.
- d) A range of analysis periods can be accommodated e.g. Electricity Supply Authority months, accounting periods, production periods etc.
- e) Graphical and numerical reports on Period, Daily Consumption and Cost can be produced for any centre.
- f) Reports and hard copy Graphs can be printed on the system printer, in colour if required.
- g) An extract from the Microsoft Access® database can be created for the user to operate his own queries.

OTHER COMMODITIES

By using suitable transducers to monitor production throughput, it is also possible to record numbers of items produced (e.g. bags of cement) or tonnes of material manufactured or consumed. Comparisons can then be made between energy consumption and production e.g. kWh/Tonne or Cost/Tonne. In addition accurate stock monitoring can be undertaken.

STATUS and EVENT MONITORING

With enhanced software events rather than pulses can be monitored on dedicated Logger Outstation inputs enabling precise time logging of such events as external alarms, switchgear operation, trips etc.

MULTIPLE COMPUTERS/ LOCAL AREA NETWORKS

More than one Personal Computer can be accommodated on an ATLAS RS485 network, some may have restricted access if required. However it is more practical for the ATLAS System Computer to provide data to a LAN file server for sitewide analysis and reporting. Cost effective sitewide software licences are available where required.

ALBAR ASSOCIATES

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